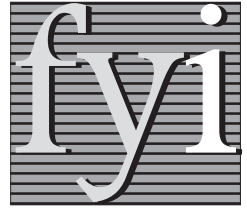


## CASE STUDY: Sustainable Building



INFORMATIONAL  
SUPPLEMENT FOR  
DPD CUSTOMERS

# fisher pavilion at seattle center

revitalizing  
outdoor  
space

preserving  
trees



*The landscape architect, Site Workshop, worked closely with Seattle Center landscape staff to design garden areas that feature a mixture of native and adapted woodland plants. The September 11 Memorial Garden, pictured above, is located at the SW corner.*

• In our previous case study we explored the City's Key Tower base remodel, which is using nature as a guide to achieve energy efficiency. This month's feature addresses the sustainable building techniques implemented in Fisher Pavilion, the Seattle Center's replacement for the Flag Pavilion, which was built as a temporary facility for the 1962 World's Fair and only intended to last six months.

• Although the design of Fisher Pavilion was under development before the City of Seattle adopted a sustainable building policy, sustainability principles had already been embraced by the project team, led by Seattle Center and Miller Hull, the architect. This team decided to strive for LEED (Leadership in Energy and Environmental Design) Silver Certification, a green building rating system developed by the U.S. Green Building Council. As a result, Fisher Pavilion is the City's first completed project to apply for this certification.

A versatile gathering space, Fisher Pavilion is one of the most-used buildings on the Seattle Center campus, hosting cultural festivals, community celebrations, and private gatherings and events. Given its location at the heart of the Seattle Center, the project team was challenged by the following goals:

- creating a large outdoor space,
- bringing together the Fisher Pavilion and International Fountain, and
- providing a visual connection between the Children's Theater and the Seattle Center Theater District that opened vistas of the City and Queen Anne Hill.

• Led by Miller Hull, the design team created on an innovative approach to meet the project goals: they decided to build below grade. A "subterranean" design allowed the team to open the view, increase the usable outdoor space by creating a plaza on the rooftop, and improve the energy performance of the building. Fisher Pavilion was built into a natural hillside that slopes from the Children's Theater towards the International Fountain. Over 22,000 cubic yards of soil was removed to make way for the new building.

• The design adds a 19,000 square foot rooftop plaza with a spectacular view of the International Fountain to the north. The roof is finished with painted concrete pavers



*Located in one of the most-used areas at the Seattle Center, Fisher Pavilion is expected to host over 900,000 visitors each year. A primary use is a year-long series of ethnic and cultural festivals called Festál, which showcases the region's diverse cultural communities.*

conserving water

See **sustainability case study** on page 2

that reflect solar heat and maintain a cooler microclimate while artfully mimicking the colors of raindrops and fountain spray.

Two acres of green space, called the "Green," have replaced the Flag Pavilion's concrete plaza area. The Green was graded into a bowl to accommodate the large number of people that participate in festivals and gatherings at the Pavilion. The landscape architect, Site Workshop, worked closely with Seattle Center landscape staff to design garden areas that feature a mixture of native and adapted plants suitable to the shady microclimate similar to a woodland garden.

The building design was carefully considered to preserve trees planted over 40 years ago. An arborist was brought on board to assist with developing a tree protection plan. Most of the street trees—London Planetrees—and three important specimen trees were protected. The specimen trees include: the Founders' Tree, a laurel from the southern Mediterranean region; an Atlas cedar from northern Africa; and a Zelkova from Asia. As watering landscapes often consumes a considerable amount of potable water, Seattle Center will conserve water by using a high-efficiency irrigation system.

Fisher Pavilion also features a number of strategies for reducing energy use. The subterranean design creates a thermal buffer on the south, east and west sides and eliminates solar gain. The result is an overall reduction in the energy load requirements to heat and cool the space.

The mechanical design uses a hybrid approach and combines a simple HVAC system with direct digital controls with a passive ventilation and conditioning approach. Five roll-up doors create a magnificent glass wall on the north side that can be raised for an open-air experience and provide a connection to the outdoor plaza and South Fountain Lawn. During months with mild weather the HVAC system can be turned off and the building relies on natural ventilation and conditioning. To assist, the project team installed "destratification fans" in the ceiling space. As warm air rises, the fans can be operated to either push the warm air down into the space during cooler climate conditions or pull the warm air out of the building during warmer conditions. A radiant heating system was installed in the unconditioned foyer to provide additional comfort in this transitional space.

Miller Hull created a flexible and adaptable building. By using the concrete, steel, and glass structure as finish, fewer resources were required. Where finish materials were used, the team specified materials that were either locally manufactured, made with recycled materials, or low-emitting materials. Low-emitting materials improve indoor air quality because they meeting more stringent limits for chemicals such as volatile organic compounds.

In addition to careful selection of building materials, the contractor, Howard S. Wright, recycled 87 percent of the construction, demolition, and land-clearing debris, thereby keeping these materials in productive use and conserving natural resources.

## minimizing energy use



Roll-up glass doors blur the edges between indoor and outdoor spaces. Structure of concrete, steel and glass serves as finish.

## using materials efficiently

### Learn More

For information on Seattle Center events and facilities, visit **[www.seattlecenter.com](http://www.seattlecenter.com)**.

To learn more about the City of Seattle's Sustainable Building Program visit **[www.seattle.gov/sustainablebuilding](http://www.seattle.gov/sustainablebuilding)**.

To explore DPD's work towards sustainability goals visit **[www.seattle.gov/dpd/sustainability](http://www.seattle.gov/dpd/sustainability)**, or contact:

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